DOCUMENT RESUME

ED 306 160 SO 019 830

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TITLE Mass Media Representation of Teaching: A Behaviour Analysis Approach.
PUB DATE 30 Jul 88
NOTE 14p.; Paper presented at the European Meeting on the Experimental Analysis of Behaviour (2nd, Liege, Belgium, July 26-30, 1988).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Audiences; Classroom Communication; *Content Analysis; Film Criticism; *Films; Foreign Countries; Mass Media; *Mass Media Effects; *Media Research; Research Methodology; *Teacher Student Relationship

ABSTRACT

Although psychological studies of the mass media have been dominated by cognitivist and psychodynamic concepts, a study of the mass media using a behavior analysis method may be used to analyze the content of the mass media. By applying that analysis to fictional teacher-learner interactions an interpretation of those relationships can be made and compared to similar analyses of real situations to see what features are held in common. An application of the EXRIB system (Hobbs and Kleinberg, 1978) to film and cartoon depictions of teacher-student behavior may show that meaningful relationships exist between media content and audience behavior. The paper is illustrated with examples and problems of interpretation are discussed. (PPB)

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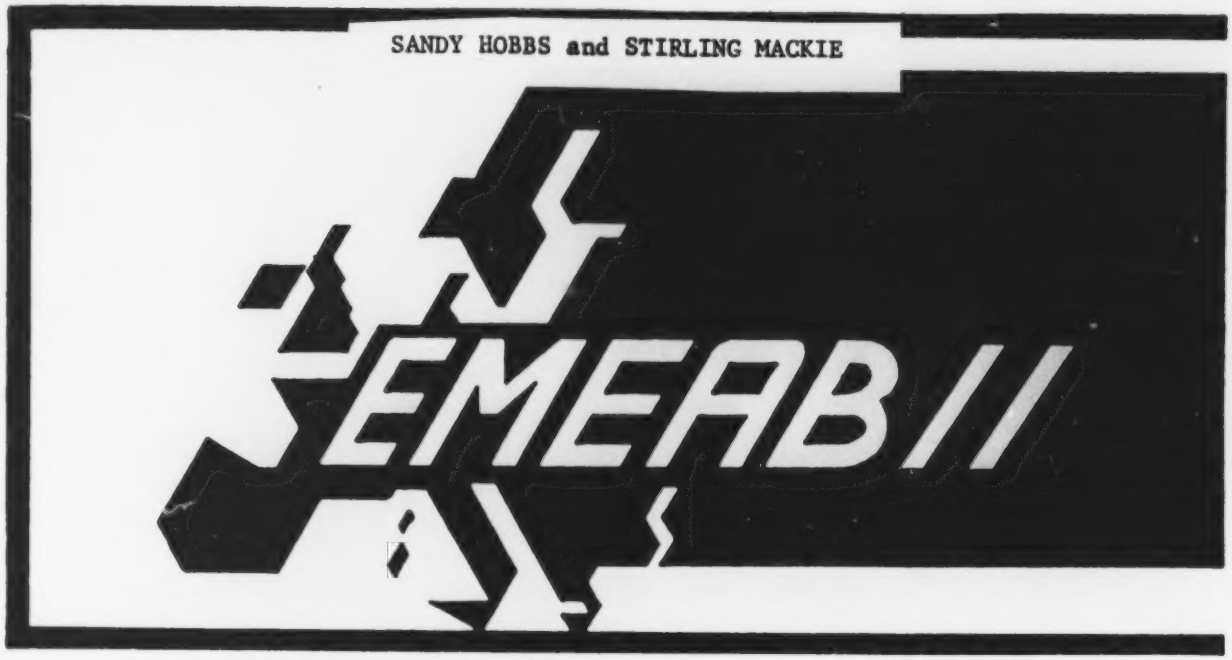
MASS MEDIA REPRESENTATION OF TEACHING:

A BEHAVIOR ANALYSIS APPROACH

SANDY HOBBS and STIRLING MACKIE



SECOND EUROPEAN MEETING ON THE EXPERIMENTAL ANALYSIS OF BEHAVIOUR

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LIEGE (BELGIUM), 26-30 JULY 1988

MASS MEDIA REPRESENTATION OF TEACHING: A BEHAVIOUR ANALYSIS APPROACH

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Psychological studies of the mass media have been dominated by cognitivist and psychodynamic concepts. This paper discusses the possibility of studying one aspect of the mass media from a behavior analysis standpoint. It is argued that concepts and methods already applied to the study of behavior in natural settings may also be used to analyse the content of the mass media. The EXRIB system (Hobbs and Kleinberg, 1978) was developed as a means of interpreting teaching in schools. It is here applied to fictional teacher-learner interactions depicted in cartoons and films. The paper is illustrated with examples and problems of interpretation are discussed.

THIS PAPER WAS FIRST PRESENTED AS A POSTER AT THE SECOND EUROPEAN MEETING ON THE EXPERIMENTAL ANALYSIS OF BEHAVIOUR, LIEGE, BELGIUM, 26-30 JULY, 1988.

BEHAVIOR ANALYSIS OF TEACHING

The TAD instrument for observing teacher-learner interaction (White, 1975) was an example of the extension of successful concepts in behavior analysis to tackle new problems. Since experimentally manipulated verbal reinforcement by teachers had been demonstrated to be an important tool for changing behavior, White sought to increase understanding of non-experimental classroom behavior by examining existing or naturalistic rates of teacher approval and disapproval (hence TAD). White found that verbal approval dropped over grades and that after the early stages of education, verbal disapproval tended to exceed approval. Subsequent research has led to improvements in observation techniques and some modification of the natural rates described as typical by White (see, for example, Wyatt and Hawkins, 1987). However, the general appropriateness of the programme which White initiated for the behavior analysis of teaching in natural settings seems to have been confirmed.

The EXRIB system (Hobbs and Kleinberg, 1978) was devised with a view to extending behavior analysis to a further range of educational issues. Traditionally, educational policy makers set 'curricula' or specify the 'contents' of lessons. Teachers are expected to implement these policies in the classroom and various methods of differing degrees of formality are used to assess learning outcomes and to monitor the success of the teaching programmes. On the whole, the language and concepts used tend not to be behavioral. Curricula are devised with little explicit analysis of what actual events might take place in the classroom and little attention is paid to the meaningfulness of the relationship between the stated 'content' of a syllabus and the learner behaviours observed in 'class tests' and 'examinations'. The EXRIB system is an attempt to provide a framework for encouraging a process whereby educational goals will be handled in ways more compatible with behavior analysis.

A somewhat simplified summary of EXRIB follows. TEACHER APPROVAL (T+) and DISAPPROVAL (T-) may be used, obviously, as behavioral data on the teacher's goals, approval implying a goal achieved, disapproval a goal not achieved. But of what is the teacher approving or disapproving? We must know what learner BEHAVIOR (B) gave rise to the teacher's reactions. But that in itself is not enough, since the STIMULUS CONDITIONS are also relevant.

A teacher may approve of a learner response '7' when the preceding question was '21 - 14 = ?'.

A teacher may disapprove of a learner response '7' when the preceding question was '5 + 4 = ?'.

In the EXRIB system, the relevant preceding stimuli are treated as falling into two classes:

EXAMPLES (EX) are stimuli to which L is expected to respond.

RULE INDICATORS (RI) are stimuli which indicate the type of response which is appropriate.

Mathematical examples fit these categories most straightforwardly, but they may be applied in other subject areas. The system may be used in three main ways:

(a) to observe classroom interaction, to make interences about such matters as teacher goals, actual goals achieved and teacher style;

(b) to guide the construction of statements of educational objectives, with a view to making them more readily translated into behavioral learning experiences and making outcomes more readily subjected to objective assessment.

(c) to analyse already stated goals with a view to translating them into behavioral form and highlighting areas of ambiguity. (For further details of applications see Hobbs and Kleinberg, 1981, Hobbs and Kleinberg, 1982, Hobbs, Kleinberg and Crozier, 1980.) Some simple illustrations appear in Figure 1.

FIGURE 1: EXRIB ANALYSIS OF TEACHING

Teacher Right, we can't wait any longer. Put your library books in your desk. Pass the jotters round. There's no need to make faces, Graham. If you hadn't wasted so much time you would have finished. Right is everyone ready? Find the cost of nine hundred grammes at one pound per kilogram. Guy, you are not paying attention. What fraction of a kilogram is nine hundred grammes? Angela?

Pupil Nine tenths.

Teacher Nine tenths. How do you find nine tenths of a pound? Jim?

Pupil Divide by ten and multiply by nine.

Teacher Divide by ten, multiply by nine and your answer please, Robert?

Pupil Ninety pence.

This extract from a transcription of a lesson is taken from Hobbs, Kleinberg and Crozier (1980), page 39.

Successive teacher questions contain RULE INDICATOR and EXAMPLE elements. Thus:

RI What fraction of ... is ... ?
EX a kilogram/nine hundred grammes

RI How do you find ... of ... ?
EX nine tenths/a pound

TEACHER APPROVAL is here in a fairly common form which involves repeating the PUPIL BEHAVIOR. Thus:

Nine tenths

Divide by ten, multiple by nine ...

Note that a transcription does not give us access to Nonverbal Approval and Disapproval in the form of such behavior as nodding and frowning.

WRITING ABOUT THE MASS MEDIA

There are many different types of writing about the mass media. Scholars from many different disciplines, including psychology, apply their distinctive methods and concepts, but the "scholarly" is itself only one perspective amongst many. "Reviews" written for members of the general public who form part of the actual or potential audience are a familiar type of non-scholarly text. For convenience, we shall illustrate some features of these reviews by referring to comments on a single film. Richards and Aldgate (1983), in a chapter dealing with British fiction films about education, quote extensively from contemporary reviews of a film released in 1948, The Guinea Pig.

From the point of view of behavior analysis, the most striking aspect of these reviews is that they typically apply to the film many of the affective and cognitive concepts considered problematic by behaviorists when they are applied to human beings. Thus the film is variously characterized as "intelligent" and "rational'. It has both "courage" and a "patronizing attitude". Sometimes it appears that the film is being made to stand metaphorically for the film makers. When it is said that the film "takes for granted' some point or that it "picks its way surefootedly" through some problems, it is presumably the film makers to whose behavior the reviewers are alluding. The relationship between the film makers' behavior and the artifact of that behavior (the film itself) is not a simple one however. Reviewers implicitly distinguish between characteristics of the film they see and the makers' behavior when they refer to an effect as being "unintentional', for example. References to the film's "warmth' and "humour" presumably imply certain audience responses. However, they are often ambiguous, in that they might be descriptive of the writer's own reactions or predictions about the reactions of others. Only occasionally is the latter interpretation clearcut, as when the reader is addressed directly: "You will be carried effortlessly and absorbed through an important aspect of British life". A final aspect of the language of the reviewer worth noting is that fictional characters are described in terms which might normally be applied to actual human beings, as when a teacher is called "reactionary" or an "uncouth" pupil "learns the value of tradition".

We have chosen to quote these reviews rather than psychological writing on the mass media, since in the main to adopt a behaviorist perspective towards the latter simply shows up the same sorts of differences on terminology and concepts which have given rise to dispute in so many fields of psychology. A single example of non-behaviorist psychological writing will illustrate. Dunn and Cardwell (1984), discussing parental reaction to mass media, write that parents can ensure that "their child is aware of the 'meanings' of the events portrayed". They go on to suggest that it may be useful for parents to criticize the behavior of fictional charcters since "a similar critique of their child's behavior could result in an ego-defensive response". Here then is

the language of cognition and the language of psychodynamics side by side within a single paragraph.

We do not suggest that any one strategy must be followed in seeking to bridge the gap between behavior analysis and the substantially non-behavioral language of most traditional writing about the mass media. To achieve a productive dialogue will doubtless be a long and painful process. The present paper proposes one possible route.

A common feature of many analyses of films and other mass media is to consider film 'content' in terms of the relationship between events in the film and naturally occurring events involving actual human behavior. For example, if a film scene is termed 'unrealistic', significant differences between the film and actual events are implied. When reference is made to effects on the audience, that too implicitly deals with film-event/actual event relationships: a prediction is made about audience behavior, with exposure to the film a contingent variable.

Now the content of a film is clearly highly complex, and so will be any behavioral account of film-audience relationships. One way of moving towards adequate behavior analysis of film and other mass media would be to select for special consideration film episodes which have features in common with types of actual human behavior to which behavior analysts have already turned their attention. Madness/mental illness/abnormal behavior might be one such area. Teaching is another. This is not to suggest that all that is required is to apply the same analytical techniques to 'fictional' events as have been applied to 'real' ones. Rather it is hoped that some features will exist in common between a successful analysis of 'real' teaching and a successful analysis of reactions to the portrayal of teaching.

BEHAVIOR ANALYSIS OF FICTIONAL TEACHING

In seeking to apply a behavior analysis approach to mass media representation of teaching, two sorts of factors must necessarily influence the intial steps taken.

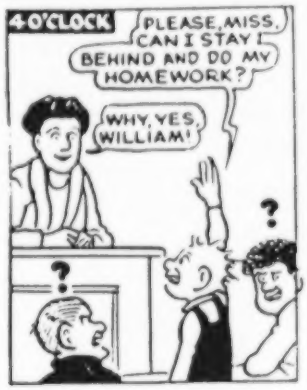
There is, first, the experience gained of behavior analysis of teaching. The application of EXRIB to the observation of teaching (as opposed to the analysis of curriculum documents) suggests that Teacher Approval and Teacher Disapproval are the categories of analysis most readily applied. The Example, Rule Indicator and Behavior categories vary in their prominence. In part this may be due to variation in teaching style and becomes a basis of critical review of different teaching strategies. Hence, in turning our attention to observation of fictional teaching we may anticipate, that Teacher Approval and Disapproval will be the most readily identified aspects of behavior there too. We will thus be likely to make most use of that aspect of EXRIB which is closest to TAD, the longer established behavioral observation technique in this area.

The second type of factor to be borne in mind is the nature of the data available. Whatever medium we examine, the cases subjected to analysis will have been originally composed with aims, both aesthetic and commercial, which are quite separate from behavior analysis. Hence, although there may be certain similarities between analysing, say, a videorecording of an actual classroom and analysing a sequence in a feature film depicting a teacher at work, there are also likely to be differences. The former will have been made with a view to maximizing the quality of information available relevant to the variables being examined. Insofar as a feature film provides such information it is likely to be more variable in quality and more fragmentary, since susceptibility to behavior analysis is not a goal of the film makers. In the case of other media, such as the cartoon comic strip, the form of the original material has no obvious parallel in classroom observation, so the question must naturally arise as to whether it is amenable to behavior analysis.

Initial exploratory investigations have been directed towards three broad issues. One is the general susceptibility of the material to behavior analysis. A second is the relability of the observational/analytical categories. The third is the relevance of the results of behavior analysis to existing debates on the mass media. Some illustrative examples will be found in the accompanying figures.

FIGURE 2: FICTIONAL TEACHING: COMIC STRIP

The form of data present in a comic strip is quite different from that in a sound or video recording. It is particularly easy to handle and scan. A review of the contents of a strip featuring the very popular Scottish cartoon character "Oor Wullie" suggests that the elements of an EXRIB analysis may be readily identified in strips where teaching is depicted.

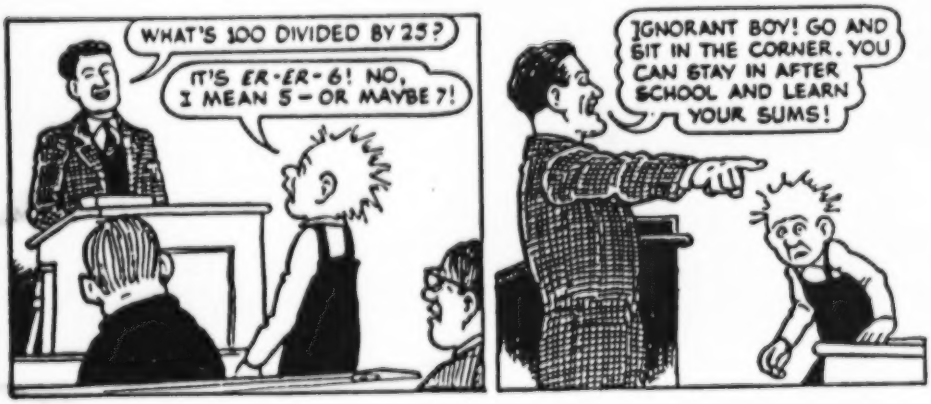


B

VERBAL T+

NONVERBAL T+

RI EX RI EX T-(NV) T-(V)


WHAT'S 100 DIVIDED BY 25?
IT'S ER-ER-6! NO, I MEAN 5 - OR MAYBE 7!
IGNORANT BOY! GO AND SIT IN THE CORNER. YOU CAN STAY IN AFTER SCHOOL AND LEARN YOUR SUMS!

B ↑

A study of three volumes of comic strips devoted to this character found that TEACHER DISAPPROVAL is much more frequently depicted than TEACHER APPROVAL. (Based on Hobbs, 1987)

T+		T-	
V	NV	V	NV
3	4	33	47

FIGURE 3: FICTIONAL TEACHING: FILM

Compared to cartoons, film and television present very complex material for analysis. However, the type of data available has many features in common with the data provided by videorecordings of actual classes.

A number of films examined contain sustained sequences depicting teaching. In those analysed so far, TEACHER DISAPPROVAL is found much more fequently than TEACHER APPROVAL, in this respect at least matching the cartoon results in Figure 2. A short extract from the analysis of a television film, Birth of a Nation, follows.

TIME	T+	T-	V	NV	B TYPE
00.10.00		✓	✓		failure
00.10.03		✓	✓		disorder
00.10.34		✓	✓		disorder
00.11.16		✓	✓		disorder
00.11.18	✓		✓		quiet
00.12.06		✓		✓	disorder
00.13.25		✓		✓	off task
00.13.45		✓	✓		off task
00.14.32		✓	✓	✓	disorder
00.14.37		✓		✓	disorder

In seeking meaningful relationships between film content and audience behavior, it would be foolhardy to arbitrarily isolate scenes depicting teaching from other aspects of the film. The film, The Browning Version, shows two of the main characters teaching in early sequences. One critic (Cowie, 1963) has described one of those teachers, Crocker-Harris, thus:

> Asquith's achievement is in his control of the audience's sympathies: Crocker-Harris is a repulsive character who only gradually becomes pitiful and, at the end, almost noble.

What is there in the early scenes which could lead this member of the audience to treat this character as "repulsive"? In their teaching, both Crocker-Harris and Hunter show a similar, and apparently typical, preponderance of Disapproval over Approval. Thus that aspect of the film cannot in itself be regarded as an explanation. A more complex analysis of the film is required. The following points may be noted:

a) On several occasions there are bursts of laughter from Hunter's class. There is no equivalent behavior in Crocker-Harris's class. Some of the laughter occurs in reaction to Hunter's expressions of disapproval of the statements of one boy. This suggests that some at least of Hunter's T- behavior has multiple functions.

CONTINUED

FIGURE 3: CONTINUED

TIME	SETTING	TYPE OF SOCIAL INTERACTION AND KEY PARTICIPANTS	L*
05.15	Corridor	Discussion HEAD, HUN, etc..	05.21 05.42
05.58	Classroom (C-H)	Discussion HEAD, boys, etc..	
06.57	Corridor	(eavesdropping) HEAD	06.57
07.03	Classroom (HUN)	Teaching HUN, boys	07.22 07.52 08.46
09.02	Classroom (C-H)	Discussion boys	
10.20	"	Teaching C-H, boys, etc.	11.51
14.24	Classroom (HUN)	Teaching HUN, boys	14.26 14.35
14.48	Corridor	(exit from class) boys	14.48
14.53	Classroom (C-H)	Teaching C-H, boys, etc.	
16.05	Outdoors	Discussion HUN, etc.	
16.51	Classroom (C-H)	Teaching C-H, boys, etc.	
17.41	"	Discussion C-H, etc.	
(18.35	next scene)		
	HEAD HUN C-H	Headteacher Hunter Crocker-Harris	*L time of laughter by Hunter's class

b) Although Crocker-Harris first appears at 10 minutes, 20 seconds, he has been alluded to in previous scenes. For example, the Headteacher has described his discipline as better than that of Hunter. Immediately prior to his appearance, boys discuss his personality, speculating on whether he has feelings and whether he is sadistic. Prior references to a character presumably exert some sort of control over how the audience responds to a character once he or she actually appears.

c) The danger of arbitrarily taking a given teaching scene in isolation may be seen in the fact that during a scene of Crocker-Harris teaching the audience hears laughter from Hunter's room (at 11 minutes 51 seconds). Thus the "depiction" of Hunter's teaching is not confined to those scenes which focus on his teaching.

PROBLEMS OF INTERPRETATION

The reliable identification of Teacher Approval, Teacher Disapproval and other features of the EXRIB analysis of teaching can only be a first step towards an adequate behavior analysis of mass media 'content'. If we are to finding functional relationships between that content and audience behavior, it seems likely that normally it will be in interaction with certain other potentially powerful variables. We have three types of variable particularly in mind. They are schematically outlined below.

a. First, there is the other content of the work. Characters depicted as teachers or students will in all likelihood be portrayed in relationships other than teaching. For example, will reaction to a teacher shown emitting a high rate of Disapproval in the classroom be influenced by what that character is depicted doing or experiencing in other settings?

b. Secondly, there is the question of the relationship between the content and the audience's other experience. It might be expected, for example, that a spectator with a personal history which includes being subjected to a relatively high rate of teacher disapproval might respond differently to a classroom scene from a person who has typically received teacher approval more frequently.

c. Thirdly, we must bear in mind the possibility of stimuli being present which control the general classes of responses which will be omitted. The existing cognitive literature on audience reactions implicitly recognizes this possibility when it deals with the issue of 'perceived reality', for example (see Potter, 1988). If a viewer responds to a scene in a television news bulletin in a different way from that in which he or she responds to an equivalent scene in a TV movie, then this presumably results from the presence of cues which act as discriminative stimuli for different sorts of behavior. Potter (1988) argues plausibly that the empirical evidence suggests that perceived 'reality' is not a single dimension, so the relationships which a behavior analysis will need to explore are presumably complex. "Reality' itself is not the only possible response differentiation that needs to be examined. "Comedy", for example, is another. Cues which indicate that scenes will lead to laughter may very well also have an impact on how the effect of that scene integrates with the audience's other experience. We suggest there may be an analogy between the ways in which these cues work to control audience reaction and the role of the Rule Indicators in teaching.

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BIRTH OF A NATION — TV Film Series
Screenplay: David Leland
Directors: Mike Newell, Edward Bennet, Jane Howell, Alan Clarke
Central Television, Britain, 1983.

THE BROWNING VERSION — Film
Screenplay: Terence Rattigan
Director: Anthony Asquith
Adapted from a play by Terence Rattigan
Javelin, Britain, 1951.

THE GUINEA PIG — Film
Screenplay: Warren Chetham Strode, Bernard Miles, Roy Boulting
Director: Roy Boulting
Adapted from a play by Warren Chetham Strode
Pilgrim, Britain, 1948.

OOR WULLIE — Annual Comic Books
Artists: Dudley D. Watkins (and others, uncredited)
London: D. C. Thomson, 1958, 1968, 1978.
Note: many of the strips in these volumes have also appeared in the newspaper, The Sunday Post.